

CLAIMS

1. A mold apparatus characterized by comprising:
 - (a) a first mold; and
 - (b) a second mold disposed in such a manner as to be able to advance toward or retreat from the first mold; and characterized in that:
 - (c) at least either the first mold or the second mold has a sintered portion having a predetermined thickness.
2. A mold apparatus according to claim 1, wherein the sintered portion is formed on at least a sliding surface.
3. A mold apparatus according to claim 1, wherein the sintered portion is formed on at least a contact surface between a base portion and an insert.
4. A mold apparatus according to any one of claims 1 to 3, wherein the sintered portion is formed by means of sintering a sintering powder and comprises a base layer formed from a first material and an outermost layer formed from a second material.
5. A mold apparatus according to claim 4, wherein the first and second materials have different characteristics.
6. A mold apparatus according to claim 5, wherein the second material has high wear resistance.
7. A mold apparatus according to claim 4, wherein an intermediate layer formed from a material containing the first and second materials at predetermined contents is formed between the base layer and the outermost layer.
8. A mold apparatus according to claim 7, wherein, in the

intermediate layer, the contents of the first and second materials are varied between a side toward the base layer and a side toward the outermost layer.

9. A mold apparatus according to claim 2, wherein the sliding surface comprises a first sliding surface and a second sliding surface formed from respective materials of different characteristics.

10. A method for manufacturing a mold apparatus, characterized by forming a mold apparatus by means of discharge-plasma-sintering a powder used to form a base layer and a wear-resistant material powder used to form an outermost layer.

11. A molding method characterized by comprising:

(a) a step of advancing a movable mold toward a stationary mold while a sintered portion formed on at least either the movable mold or the stationary mold slides on the other mold, thereby forming a cavity to be filled with a molding material between the movable mold and the stationary mold;

(b) a step of filling the cavity with the molding material;

(c) a step of cooling the molding material filling the cavity; and

(d) a step of retreating the movable mold from the stationary mold.

12. A molding method for forming a molded product by means of a stamper provided on at least one mold selected from a movable mold and a stationary mold, the stamper having a fine pattern formed thereon, comprising:

(a) a step of advancing the movable mold toward the stationary mold;

(b) a step of forming a cavity to be filled with a molding material between the movable mold and the stationary mold;

(c) a step of filling the cavity with the molding material, and causing the stamper to expand in a state in which the stamper is in contact with a stamper contact surface of the selected mold;

(d) a step of cooling the molding material filling the cavity, and causing the stamper to contract in a state in which the stamper is in contact with the stamper contact surface; and

(e) a step of retreating the movable mold from the stationary mold.

13. A molded product formed by a molding method according to claim 11 or 12.

14. A molding machine comprising a mold apparatus according to any one of claims 1 to 3.